

### Abstract

A method and system is arranged to convert a differential low-voltage input signal (e.g. LVDS or RSDS) into a single-ended output signal. An operational trans-conductance amplifier (OTA) is configured to convert the input signal into a current. A trans-impedance stage is configured to convert the current into the single-ended output signal. The voltage associated with the output of the OTA corresponds to approximately  $V_{DD}/2$ . The trans-impedance stage comprises an inverter circuit, a p-type transistor, and an n-type transistor. The transistors are arranged in a negative feedback configuration with the inverter. The single-ended output signal has a voltage swing that approximately corresponds to the sum of the  $V_{GS}$  of the n-type transistor and the  $V_{GS}$  of the p-type transistor. The output signal may be buffered by additional circuits such as an inverter, a Schmitt, as well as others.

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